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PTO/SB/21 (08-00)

Approved for use through 10/31/2002. OMB 0651-0031  
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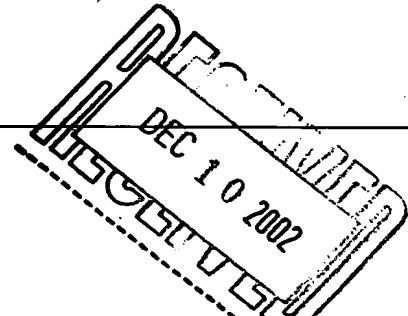
# TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

		Application Number	10/064,207
		Filing Date	06/21/2002
		First Named Inventor	Lin-Kai Bu
		Group Art Unit	2871
		Examiner Name	
Total Number of Pages in This Submission	16	Attorney Docket Number	HMOP0001USA

## ENCLOSURES (check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached  <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s)  <input type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express Abandonment Request  <input checked="" type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s)  <input type="checkbox"/> Response to Missing Parts/ Incomplete Application  <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____  Remarks	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):
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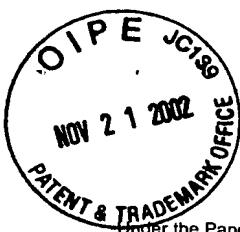


## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	WINSTON HSU
Signature	<i>Winston Hsu</i>
Date	11/20/2002

CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: <span style="border: 1px solid black; padding: 2px;">FAX</span>	
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PTO/SB/17 (10-01)

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# FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

**TOTAL AMOUNT OF PAYMENT** (\$ 0.00)

## Complete if Known

Application Number	10/064,207
Filing Date	06/21/2002
First Named Inventor	Lin-Kai Bu
Examiner Name	
Group Art Unit	2871
Attorney Docket No.	HMOP0001USA

## METHOD OF PAYMENT

1.  The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:  
 Deposit Account Number **50-0801**  
 Deposit Account Name **North America International Patent Office**  
 Charge Any Additional Fee Required  
 Under 37 CFR 1.16 and 1.17  
 Applicant claims small entity status.  
 See 37 CFR 1.27
2.  Payment Enclosed:  
 Check  Credit card  Money Order  Other

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity Small Entity

Fee Code (\$)	Fee (\$)	Fee Code (\$)	Fee Description	Fee Paid
101	740	201	370 Utility filing fee	
106	330	206	165 Design filing fee	
107	510	207	255 Plant filing fee	
108	740	208	370 Reissue filing fee	
114	160	214	80 Provisional filing fee	

**SUBTOTAL (1) (\$ 0.00)**

### 2. EXTRA CLAIM FEES

Total Claims	Independent Claims	Multiple Dependent	Extra Claims	Fee from below	Fee Paid
			-20** =	X =	

Large Entity Small Entity

Fee Code (\$)	Fee (\$)	Fee Code (\$)	Fee Description
103	18	203	9 Claims in excess of 20
102	84	202	42 Independent claims in excess of 3
104	280	204	140 Multiple dependent claim, if not paid
109	84	209	42 ** Reissue independent claims over original patent
110	18	210	9 ** Reissue claims in excess of 20 and over original patent

**SUBTOTAL (2) (\$ 0.00)**

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
105	130	205 Surcharge - late filing fee or oath	
127	50	227 Surcharge - late provisional filing fee or cover sheet	
139	130	139 Non-English specification	
147	2,520	147, 2,520 For filing a request for <i>ex parte</i> reexamination	
112	920*	112, 920* Requesting publication of SIR prior to Examiner action	
113	1,840*	113, 1,840* Requesting publication of SIR after Examiner action	
115	110	215 Extension for reply within first month	
116	400	216 Extension for reply within second month	
117	920	217 Extension for reply within third month	
118	1,440	218 Extension for reply within fourth month	
128	1,960	228 Extension for reply within fifth month	
119	320	219 Notice of Appeal	
120	320	220 Filing a brief in support of an appeal	
121	280	221 Request for oral hearing	
138	1,510	138, 1,510 Petition to institute a public use proceeding	
140	110	240 Petition to revive - unavoidable	
141	1,280	241 Petition to revive - unintentional	
142	1,280	242 Utility issue fee (or reissue)	
143	460	243 Design issue fee	
144	620	244 Plant issue fee	
122	130	122 Petitions to the Commissioner	
123	50	123 Processing fee under 37 CFR 1.17(q)	
126	180	126 Submission of Information Disclosure Stmt	
581	40	581 Recording each patent assignment per property (times number of properties)	
146	740	246 Filing a submission after final rejection (37 CFR § 1.129(a))	
149	740	249 For each additional invention to be examined (37 CFR § 1.129(b))	
179	740	279 Request for Continued Examination (RCE)	
169	900	169 Request for expedited examination of a design application	
Other fee (specify) _____			

\*Reduced by Basic Filing Fee Paid **SUBTOTAL (3) (\$ 0.00)**

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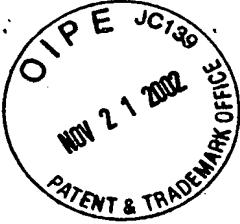
## SUBMITTED BY

Complete (if applicable)

Name (Print/Type)	WINSTON HSU	Registration No. (Attorney/Agent)	41,526	Telephone	886-2-8923-7350
Signature	<i>Winston Hsu</i>			Date	<i>14/20/2002</i>

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PATENT

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TECHNOLOGY CENTER 2800  
AN

Applicant: Lin-Kai Bu  
5 Filing Date: 06/21/2002  
Docket No.: HMOP0001USA  
Serial No.: 10/064,207  
Art unit: 2871

10 Title: METHOD AND RELATED APPARATUS FOR DRIVING AN LCD  
MONITOR

To: Assistant Commissioner for Patents  
Washington, D.C. 20231

15 Subject: Information disclosure statement under  
37C.F.R. §1.56

20 Dear Sir:

This is an Information Disclosure Statement in accordance  
with the duty to disclose information material to  
patentability under 37 C.F.R. §1.56. Applicant wishes to make  
25 of record the document listed on the accompanying form  
PTO/SB/08. It is respectfully requested that the examiner  
initials the cited reference on the form and that it be made  
of record in the application and that a copy of the initialed  
form be sent to the applicant with the next communication from  
30 the examiner.

Since the IDS is filed before the mailing date of a first  
Office action on the merits, consideration of the information  
disclosure statement is hereby requested according to  
35 37C.F.R. §1.97(b). The prior art patent contained in the  
information disclosure statement was cited in communications

from the Taiwan Intellectual Property Office on August 19, 2002. Applicant sincerely request the examiner to consider the item contained in the information disclosure statement.

5 According to the requirement set forth in 37 C.F.R. §1.98 and M.P.E.P. 609 (Rev.1, Feb. 2000), applicant is submitting a copy of the cited reference (Taiwan Patent No. 397,966) and a concise explanation of the cited reference hereinafter.

10 TP No. 397,966 teaches to an improved driving circuit with low power consumption and a precise output voltage. The driving circuit for an LCD monitor includes a voltage generator, a selecting circuit, and an output circuit. The voltage generator is used to generate a plurality of driving voltages. The 15 selecting circuit selects one driving voltage out of the driving voltages generated from the voltage generator, and outputs the selected driving voltage to the output circuit. The output circuit is connected to a data line loading (a pixel for example), and is used to drive voltage level of the data line 20 toward the selected driving voltage. The output circuit has an input port for receiving the selected driving voltage, an output port, a first voltage source, a second voltage source, a first switch connected between the input port and the output port, a second switch connected between the output port and the 25 second voltage source, and at least a transistor.

Fig.5 is a principal schematic diagram of the improved driving circuit. A drain of the transistor 11, which is a PMOS transistor, is connected to the first voltage source (grounding 30 voltage), a gate of the transistor is connected to the input port 8, and a source of the transistor is connected to the output port 9 that is connected to the data line loading 5. During a first period, the selecting circuit 3 is disabled, and the first switch 12 and the second switch 13 are switched on. Therefore, 35 the transistor 11 is turned off, and the second voltage source drives the data line loading 5. That is, the output voltage of

the output port 9 is pre-charged to Vcc. During a second period, the selecting circuit 3 is enabled to output the selected driving voltage V1 to the input port 8. In addition, the first switch 12 and the second switch 13 are switched off. The data  
5 line loading 5, therefore, starts discharging through the transistor 11. The voltage level of output port 9 is lowered from Vcc to (V1-Vt) wherein Vt is a threshold voltage of the transistor 11. During a third period, the selecting circuit 3 remains enabled for outputting the selected driving voltage V1  
10 to the input port 8, and the second switch remains off. But, the first switch is switched on so that the output voltage of the output port 9 becomes the selected driving voltage V1.

The operation of other embodiments of the cited art is  
15 similar to the above-mentioned process. The kernel feature of the improved driving circuit is using the transistor to quickly drive the output voltage toward the selected driving voltage and using the first switch to drive the output voltage directly by the selected driving voltage. In other words, the transistor  
20 has great driving efficiency but poor driving accuracy. Therefore, the first switch transmitting the selected driving voltage is used to compensate the transistor for acquiring a precise output voltage. Briefly summarized, the cited art fails to teach or suggest that the switches in the output circuit can  
25 be used to average output voltages for different data line loadings driven by the same selected driving voltage.

Respectfully Submitted,

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Date: 4/20/2002